Amendments to the claims

1-6.   (cancelled).

7.   (Previously Amended) A method of controlling standing monomer level in a polymerization reaction including the steps of a) detecting coolant temperature at a cooling jacket inlet; b) detecting coolant temperature at a cooling jacket outlet; c) detecting coolant flow rate; d) calculating Q_{jdyn} *(raw)* and U_{raw} wherein U_{raw} is capped such that $U_{min} < U_{raw} < U_{max}$; e) obtaining U_{filt} by inputting U_{raw} into a low pass first order filter; f) calculating, using the values obtained in steps a through e, a value for the dynamic jacket heat removal; g) calculating a heat release value of polymerization using the dynamic jacket heat removal value; h) comparing the calculated heat release value of polymerization to a target heat release value of polymerization; i) calculating, using the value obtained in step h, the level of in-process monomer in the polymerization reaction; and j) controlling the rate of monomer addition to the polymerization reaction, based upon a comparison the value obtained in Step i with a target in-process monomer level, such that a desired level of in-process monomer is maintained.

8.   (Original) The method of claim 7 wherein the polymerization reaction is an emulsion polymerization.

9.   (Original) The method of claim 7 wherein the level of in-process monomer is less than about 8 %wt, based on the total weight of the reaction mixture.

10.   (Cancelled)

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